Statement of

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Mr. Chairman, I welcome the opportunity to be with you today and speak about the future. For that is the crux of the debate over the FY 1994 NASA spending bill. We are considering the kind of future we want to pursue on the space frontier.

Part of the great history of this body is that is has, on many occasions in the past, dealt with the shape and texture of that future. Through the years, the Congress has ultimately decided whether the American nation would, as H.G. Wells put it, "reach forward fearlessly to comprehend this future that defeats our eyes." And in almost every instance down through the decades, the Congress has seen the wisdom of moving forward to confront that destiny.

This very same issue of destiny and investment confronted the nation in the 1850s. The issue was westward expansion and the transcontinental railroad. The setting then was very much like the scene we all witnessed over the last week as the House of Representatives twice debated the fate of the Space Station.

In both cases, there were persuasive arguments on either side of the question. And there will always be those who will question whether we should confront the frontiers of mystery. There will always be those who will predict with certainty what cannot be done. Daniel Webster was against the transcontinental railroad. He rose in the Senate and thundered, "What do we

want with this vast, worthless area, this region of savages and wild beasts, of shifting sands and whirlpools of dust?"

Today we know that Webster missed the point of that debate. We can see it, through the lens of history. Looking forward, of course, is a much greater challenge. I would argue that we must not shut off a source of inspiration and hope. I would argue that we must not deny ourselves access to a unique environment, nor close ourselves off from development on a new frontier. I would argue that we must not scuttle the largest peacetime program of international scientific cooperation in history. As President Clinton has suggested, that one element of the space station program could itself help define the new era that will follow the Cold War -- international cooperation on the space frontier.

Through Webster's uncharacteristic lack of foresight, his inability to see how change was poised to sweep across an entire continent, we see a classic cautionary tale. History is filled with other such examples of great figures who, in forecasting the course of technology, investment, and the future, ultimately guessed wrong.

The "Experts" predicted that rail travel would asphyxiate the passengers, that steam navigation across the stormy North Atlantic was impossible. In 1878, a committee of the British Parliament dismissed Edison's light bulb as "unworthy of the attention of practical or scientific men." And just eight years before the Wright Brothers flew at Kitty Hawk, Lord Kelvin said that heavier-than-air flight was a fantasy.

We must pay attention to the lessons of history, or risk the vengeance of history.

Mr. Chairman, I am proud of the NASA budget this year. When I was going through the confirmation process in the spring of 1992, several senators expressed concern that the NASA budget was growing too fast. They were concerned over the balance within that budget.

Today, a year later, we have responded to those concerns. We have cut $15 billion from the NASA five year spending plan. That is the equivalent of an entire year of funding for this agency. And in the process, we are achieving balance. As a percentage of the whole, our expenditure on human spaceflight

is going down. And our spending on science and aeronautics is going up. There is balance between human and robotic spaceflight. There is balance between aeronautics and space. There is balance between technology and science, and between big science and small science.

We have done what you asked us to do. We are dealing with level budgets. The space station is level funded over the next five years, which assures us that it will not impact other important programs. We are finding efficiencies. We are making room for exciting science projects.

Our space program is about much more than the space station, which accounts for about one seventh of our budget. We are budgeting for a significant renewal of our aeronautics capabilities. We are investing in science, with two Advanced X-Ray Astrophysics spacecraft, the Cassini mission to Saturn, Mission to Planet Earth, and a new start on Gravity Probe B. We are investing in a new series of low cost space probes, the first of which will be the MESUR/Pathfinder probe to Mars. For 5% of the cost of the Viking project, we will send a robot explorer to traverse the plains of Mars.

Now what this program needs is stability. Now what we need is consensus and a path to the future. We must get on with our important work. In closing, Mr. Chairman, I would suggest that our programs are about much more than nuts and bolts and blueprints. They are much, much more than a high-tech jobs program.

We are pursuing a national capability. We are keeping excellence alive and healthy in a field that could well define our future. We cannot turn our spaceflight skills on and off like a light switch. We must nurture and shape our capabilities, and with it, our future.

Last week, the famed heart surgeon Dr. Michael DeBakey testified before the House Subcommittee on Space. He talked about what that national capability can mean. He spoke about a piece of hardware -- a heart assist device -- that he has been working on for 35 years.

This is a device that could help as many as 60,000 patients a year. And working with a team of NASA engineers, he made more progress in 3 years than was possible in the previous 35. The heart and a spacecraft have many

similarities, he said. "Both feature closed-loop systems, pumping fluids at various rates and pressures. Both receive and act upon electric impulses. Both have extensive networks to carry messages and send commands to all parts of the vessel."

And now, with the help of NASA engineers, Dr. DeBakey believes he is on the verge of a major breakthrough that will revolutionize heart surgery.

No one could have predicted that success. It came because the government was willing to invest in people and techniques and a determination to keep pushing back the boundaries of the unknown.

As Dr. DeBakey put it, "We can't predict the outcome of scientific research or the knowledge to be gained. But what we can foresee is that no new knowledge, no new solutions to our concerns will be gained without it."

Thank you very much.